U.S. ARMY CHEMICAL MATERIALS AGENCY

Milestones in U.S. Chemical Weapons Storage and Destruction

With more than 2,600 dedicated employees plus contractor support staff, the U.S. Army Chemical Materials Agency (CMA) leads the world in chemical weapons destruction with a demonstrated history of safely storing, recovering, assessing and disposing of U.S. chemical weapons and related materials.

CMA manages all U.S. chemical materiel except for the disposal of two weapons stockpiles that fall under the Department of Defense's Assembled Chemical Weapons Alternatives pilot neutralization program. Through its Chemical Stockpile Emergency Preparedness Program, CMA works with local emergency preparedness and response agencies at weapons stockpile locations.

1960-1986

1960s and before

The United States began stockpiling and using chemical weapons against Germany in World War I. The weapons are securely stored at U.S. military installations at home and abroad.

Stored chemical weapons

1970s

The Army develops environmentally sound chemical weapons disposal methods using incineration and chemical neutralization. Project Eagle incinerates 6 million pounds of mustard agent and neutralizes 8 million pounds of nerve agent GB (sarin) at Rocky Mountain Arsenal, Colo.

1971

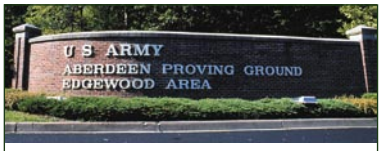
The United States transfers chemical munitions from Okinawa, Japan, to Johnston Island, located about 800 miles from Hawaii.

1972

The Army forms the U.S. Army Materiel Command's Program Manager for Demilitarization of Chemical Materiel.

1973

The organization relocates to the Edgewood Area of Aberdeen Proving Ground (APG), Md.



Organization relocates to Maryland

1975

Organizational name is changed to Department of the Army Project Manager for Chemical Demilitarization and Installation Restoration.

1978

Organizational name is changed to U.S. Army Toxic and Hazardous Materials Agency (USATHAMA).

1979

The Army constructs and begins operating the Chemical Agent Munitions Disposal System, a pilot incineration facility located at what is now the Deseret Chemical Depot (DCD), Utah. The Army tests disposal equipment and processes at the plant. More than 91 tons of chemical agent are safely destroyed.

Pilot incineration facility in Utah

1981

The United States constructs binary chemical weapons production facilities at Pine Bluff Arsenal (PBA), Ark. Binary chemical weapons were designed to mix two non-lethal chemicals in flight to a target to form nerve agent. The binary weapons program leads to chemical weapons elimination talks between the United States and the Soviet Union later in the decade.

Pine Bluff Integrated Binary Production Facility

1986

Public Law 99-145 requires the safe destruction of the U.S. unitary chemical weapons stockpile. It also requires disposal facilities to be cleaned, dismantled and disposed of according to applicable laws and regulations. The stockpile is stored at eight military installations within the continental United States and at Johnston Island in the Pacific Ocean.

USATHAMA's chemical weapons management functions are split off to become the Program Manager for Chemical Munitions (Demilitarization and Binary). USATHAMA becomes the U.S. Army Environmental Center.

For more information, contact the CMA Public Affairs Office at
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(800) 488-0648

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Milestones in U.S. Chemical Weapons Storage and Destruction

1988-1995

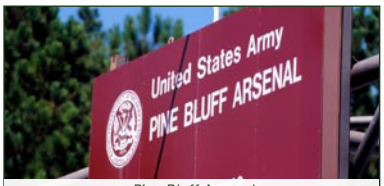
1988

The Army and the Federal Emergency Management Agency establish the Chemical Stockpile Emergency Preparedness Program (CSEPP) in response to Public Law 99-145 calling for added public protection. Although the new law reflects a greater awareness of the need to be prepared for a possible chemical accident, the Army's storage and maintenance of the stockpile has been and continues to be operated safely.

A CSEPP training exercise

1988 - 1990

The Army destroys BZ agent at PBA, Ark.

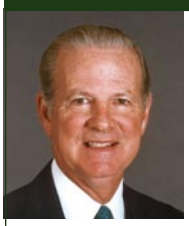


Pine Bluff Arsenal

1989

U.S. Secretary of State James Baker and former Soviet Union Foreign Minister Eduard Shevardnadze sign a Memorandum of Understanding (MOU) on chemical weapons in Jackson Hole, Wyo. The MOU calls for cooperation and information exchange between the two countries concerning their chemical weapons capabilities. The two countries then sign an agreement to destroy much of their stockpiles. That agreement spurs international talks culminating in the international treaty known as the Chemical Weapons Convention (CWC).

Memorandum of Understanding



U.S. Secretary of State James Baker

Soviet Union Foreign Minister Eduard Shevardnadze

Organizational name is changed to Program Executive Officer-Program Manager for Chemical Demilitarization.

Construction begins on Tooele Chemical Agent Disposal Facility (TOCDF) at DCD, Utah.

1990

The Army's prototype full-scale disposal facility, Johnston Atoll Chemical Agent Disposal System (JACADS), begins destruction of the stockpile on Johnston Island. The island's stockpile accounts for more than 6 percent of the nation's original stockpile.

Chemical weapons from West Germany and a small number of recovered World War II-era chemical weapons from the Solomon Islands are shipped to Johnston Island.

First full-scale disposal facility, Johnston Atoll Chemical Agent Disposal System, begins destruction in 1990

Organizational name is changed to Program Manager for Chemical Demilitarization (PMCD). The United States halts all binary weapons programs in accordance with the American-Soviet MOU.

1991

Congress expands its chemical weapons destruction directive to include the disposal of non-stockpile materiel—items that are not part of the unitary chemical weapons stockpiles.

1992

The U.S. Army Chemical Materiel Destruction Agency is established to consolidate responsibility for the destruction of chemical materials into one office.

In compliance with Public Law 102-484, the Army creates the Non-Stockpile Chemical Materiel Project (NSCMP) to develop systems to safely assess, treat and destroy five categories of chemical warfare materiel not part of the declared stockpile: binary chemical warfare materiel, former chemical weapons production facilities, miscellaneous chemical warfare materiel, buried chemical warfare materiel and recovered chemical warfare materiel.

Public Law 102-484 establishes Citizens' Advisory Commissions at each continental U.S. stockpile location. The state governor appoints seven members, with two more members from state government agencies responsible for chemical disposal program oversight.

Citizens' Advisory Commission

1994

The U.S. Army Chemical Materiel Destruction Agency is renamed to the U.S. Army Chemical Demilitarization and Remediation Activity (CDRA) and placed under the U.S. Army Chemical and Biological Defense Command (CBDCOM).

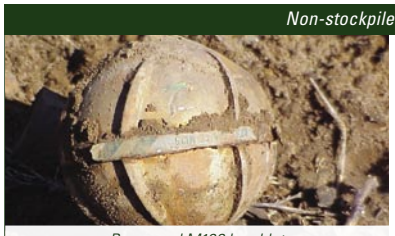
The Army establishes the Alternative Technologies and Approaches Project to investigate alternatives to incineration technology for the safe disposal of bulk chemical agent stockpiles at APG, Md., and Newport Chemical Depot (NECD), Ind.

1995

CDRA is separated from CBDCOM and renamed PMCD.

CSEPP is restructured to streamline procedures and enhance operational responsiveness.

Non-stockpile materiel items



Recovered M139 bomblet

Recovered 4.2-inch mortar

Milestones in U.S. Chemical Weapons Storage and Destruction

1996-2003

1996

TOCDF at DCD in Utah, with about 44 percent of the nation's original stockpile of nerve and blister agents, begins destroying chemical weapons. Storage and maintenance of the entire U.S. stockpile continues to be carried out safely.

1997

The United States ratifies the CWC, agreeing to dispose of its unitary chemical weapons stockpile, binary chemical weapons, recovered chemical weapons and former chemical weapons production facilities.

Chemical Weapons Convention

Public Law 104-208 funds a new, separately managed pilot program to identify and demonstrate alternatives to incineration technology for the disposal of assembled chemical weapons. The law establishes the Program Manager Assembled Chemical Weapons Assessment.

The pilot program is intended to provide alternative disposal technology for the stockpiles at Blue Grass Chemical Depot, Ky., and Pueblo Chemical Depot, Colo.

Construction begins on the Anniston Chemical Agent Disposal Facility (ANCDF) at Anniston Army Depot (ANAD), Ala., and on the Umatilla Chemical Agent Disposal Facility (UMCDF) at Umatilla Chemical Depot (UMCD), Ore.

1999

Construction begins at Aberdeen Chemical Agent Disposal Facility (ABCDF) at APG, Md.

ABCDF construction begins

NSCMP meets CWC requirement to destroy two categories of binary weapons components known as "excess other components" and "parity other components."

Construction begins at Pine Bluff Chemical Agent Disposal Facility (PBCDF) at PBA, Ark.

2000

JACADS completes destruction of its chemical weapons stockpile, making it the first stockpile facility to complete its mission. JACADS workers destroyed more than 412,000 chemical weapons.

Last mine destroyed at JACADS

Construction begins on the Newport Chemical Agent Disposal Facility (NECDF) at NECD, Ind.

2001

NSCMP's Rapid Response System (RRS) treats more than 700 Chemical Agent Identification Set (CAIS) items stored at DCD, Utah. CAIS consist of glass vials, bottles and ampoules containing small amounts of chemical agent or industrial chemicals that were used for training purposes.

NSCMP treats 10 sarin-filled bomblets recovered at Rocky Mountain Arsenal, Colo., using the Explosive Destruction System (EDS). The EDS is a transportable system designed to provide safe and environmentally secure on-site treatment of chemical warfare materiel.

EDS treating round

The Army begins studies to accelerate disposal operations in response to the terrorist attacks of Sept. 11, 2001.

The United States meets the CWC treaty requirement to destroy 20% of the U.S. chemical weapons stockpile.

2002

TOCDF completes destruction of all nerve agent GB (sarin) stored at DCD, Utah.

ANCDF completes disposal facility testing.

The Army announces plans to accelerate destruction of the chemical agent stockpiles at APG, Md., and NECD, Ind. Redesign and construction of facilities to allow for accelerated disposal begins in Maryland and Indiana.

Public Law 107-248 directs management of chemical demilitarization activities in Colorado and Kentucky to the Program Manager Assembled Chemical Weapons Alternatives.

NSCMP meets the CWC 100 percent destruction deadline for miscellaneous chemical warfare materiel.

2003

PMCD merges with the stockpile storage mission within the Army Soldier and Biological Chemical Command to form CMA. CMA is created to store, assess and dispose of chemical materials. The agency is also tasked to work with state and local emergency response agencies for emergency preparedness activities in communities near stockpile sites.

ANCDF begins disposing of chemical weapons stored at ANAD, which held 7 percent of the original U.S. chemical weapons stockpile.

ABCDF begins disposing of mustard agent stored in large steel bulk containers at APG, Md. The APG mustard stockpile accounted for 5 percent of the original U.S. chemical weapons stockpile.

NSCMP begins cleaning obsolete large steel bulk containers at the Pine Bluff Ton Container Decontamination Facility at PBA, Ark.

Pine Bluff Ton Container Decontamination Facility

NSCMP completes a successful EDS mission to treat World War I-era chemical weapons recovered in Washington, D.C.

Milestones in U.S. Chemical Weapons Storage and Destruction

2004-2008

The United States meets the CWC treaty requirement to destroy 80 percent of its chemical weapons production capacity.

2004

UMCDF begins disposing of chemical weapons stored at UMCD, which held 12 percent of the original U.S. chemical weapons stockpile.

Preparing rockets for transport at Umatilla

TOCDF and ABCDF reach 50 percent destruction milestones for munitions and bulk agent, respectively.

The Single CAIS Access and Neutralization System (SCANS) performs its first treatment of a CAIS item at Fort McClellan, Ala. SCANS is a mobile, single-use device for accessing and treating individual CAIS items containing the chemical agents mustard or lewisite.

NSCMP begins testing its Munitions Assessment and Processing System at APG, Md. The facility will treat chemical and acidic smoke munitions recovered in Maryland.

NSCMP successfully treats a WW I-era mustard-filled round at Dover Air Force Base (AFB), Del.—the first of a number of Dover missions in ensuing years to destroy recovered WW I-era weapons. The EDS also completes a successful mission at Dugway Proving Ground, and NSCMP completes a successful SCANS mission at Holloman AFB, N. M.

2005

ABCDF destroys all drained mustard agent from the APG stockpile.

Last Ton Container at ABCDF

TOCDF destroys its millionth chemical agent munition at DCD, Utah. No other U.S. site will accomplish this as only DCD had more than a million munitions in its stockpile.

PBCDF begins disposal operations. PBA stored 12 percent of the original U.S. chemical weapons stockpile.

Positioning a weapons transport container at PBCDF

NECDF begins disposal operations of nerve agent VX stored in large steel bulk containers. NECD held 4 percent of the original U.S. chemical weapons stockpile.

NSCMP opens the Binary Destruction Facility at PBA, Ark., to destroy the nation's remaining inventory of binary precursor chemicals DF and QL.

2006

Treaty inspectors with the Organisation for the Prohibition of Chemical Weapons verify the complete destruction of ABCDF's hydrolysate at DuPont, marking the official 100 percent destruction of the APG stockpile. Demolition of all ABCDF buildings not held for other uses is completed.

Treaty inspectors verify that the former chemical warfare production facility at NECD has been destroyed.

The Army destroys 50 percent—more than 1.7 million—of the munitions in the original U.S. chemical weapons stockpile.

At PBA, workers finish chemically neutralizing the entire U.S. supply of precursor chemical agents DF and QL.

The non-stockpile RRS completes its CAIS destruction mission at PBA. The RRS destroyed more than 5,300 CAIS items during this operation.

The Rapid Response System treats CAIS items under strict environmental controls

TOCDF begins destroying mustard agent—the last remaining agent stockpiled at DCD. All nerve agent weapons have been safely and completely destroyed.

2007

Newport Chemical Depot begins safe shipment of NECDF caustic wastewater to Veolia Environmental Services in Port Arthur, Texas, for final treatment and disposal.

Chemical Weapons Convention treaty 45 percent U.S. chemical agent destruction milestone achieved.

ABCDF completes Resource Conservation and Recovery Act closure, becoming the first U.S. chemical demilitarization site to achieve permitted closure.

CMA officials, Veolia Environmental Services' work force and Tri-State Motor Transit drivers celebrate a half million miles safely driven—achieved transporting wastewater from the NECDF in Newport, Ind., to Veolia's Port Arthur, Texas, waste treatment plant.

Last VX nerve agent-filled spray tank in the U.S. chemical weapons stockpile destroyed.

Safe destruction of 50 percent of U.S. chemical agent stockpile achieved.

2008

Last M55 rocket in CMA disposal mission destroyed, reducing cumulative storage risk to public by 94 percent.

PBCDF destroys the final VX-filled M23 landmine—the last nerve agent-filled munition in the Pine Bluff Arsenal stockpile.

NECDF completes its bulk nerve agent VX disposal mission, and shipment of the resulting caustic wastewater for final treatment and disposal.

The last TC of the Newport Chemical Depot stockpile is ready for delivery to the Newport Chemical Agent Disposal Facility.